Project Baseline Summary Report

Data Source: **EM CDB** Report Number: **GEN-01b**

Operations/Field Office: **Ohio** Print Date: **3/9/2000**

Site Summary Level: **West Valley Demonstration Project** HQ ID: **0249**

Project **OH-WV-01 / HLW Vitrification and Tank Heel High Activity Waste Processing**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

PURPOSE:
The West Valley Demonstration Project (WVDP) Act (Public Law PL 96-368) states that the Secretary of the Department of Energy (DOE) shall carry out a high level radioactive waste management demonstration project at the Western New York Service Center (Center) in West Valley, New York, for the purpose of demonstrating solidification techniques which can be used for preparing high level radioactive waste (HLW) for disposal. The Act stipulates that:

(1) The Secretary shall solidify, in a form suitable for transportation and disposal, the HLW at the Center by vitrification or by such other technology which the Secretary determines to be most effective for solidification.
(2) The Secretary shall develop containers suitable for the permanent disposal on the HLW solidified at the Center.
(3) The Secretary shall, as soon as feasible, transport, in accordance with applicable law, the waste solidified at the Center to an appropriate Federal repository for permanent disposal.
(4) The Secretary shall, in accordance with applicable licensing requirements, dispose of low level radioactive waste (LLW), and transuranic waste (TRU) produced by solidification of HLW under the Project.
(5) The Secretary shall decontaminate and decommission (D&D) - (A) the tanks and other facilities of the Center in which the HLW solidified under the project was stored, (B) the facilities used in the solidification of the waste, and (C) any material and hardware used in connection with the project, in accordance with such requirements as the Commission (NRC) may prescribe.

The decision to utilize vitrification as the solidification process for the HLW at WVDP was made in 1986. In 1988, the vitrification formula which complied with the Waste Acceptance Criteria for long term disposal in the Federal Repository for the HLW at WVDP was approved. PBS-OH-WV-01 has included activities for liquid HLW and tank heel residual processing for vitrification operations support since commencement of operations in 1996. Vitrification operations are expected to continue through FY2001. In FY2002 the deactivation and initial decontamination of the facilities will be performed. Final decontaimination and decommissioning according to the NRC D&D Criteria will be performed in PBS-OH-WV-02; Site Transition, Decommissioning, and Project Completion.

SCOPE:
The scope of this PBS is to complete the first action of the WVDP Act - solidification of the liquid HLW. Vitrification operations is expected to continue through FY2001. Vitrification of HLW tank heels and other high activity waste began in 4QFY1998 and is the first necessary step toward stabilization and deactivation of the tanks that contain HLW. The remaining HLW sludge in the tanks still contains a considerable high level of curies. The carbon steel underground tanks are past the end of their design life and funding support to continue vitrification operations is critical so that the Project can mitigate a substantial risk that remains by having any type of highly radioactive contaminants in those tanks.

Activities planned in FY2001 that this PBS will support include:
- HLW Vitrification Operations
- HLW Tank Heels / Residual Processing

Project Description Narratives

- HLW Tank Farm Equipment and Modifications for High Activity Waste retrieval from tanks
- Vitrification Expended Materials Processing

TECHNICAL APPROACH:
Vitrification operations of the HLW tank heels contained in the tanks will continue through FY2001. Taking advantage of the existing technology that cost DOE $1.4B to put into place is the most cost effective option for continuing to mitigate the risk associated with HLW/HAW that remains in underground storage tanks that have exceeded their design life. The extraction of the remaining HLW tank heels is accomplished utilizing robotics, lances, remote video inspection equipment, and a series of washes and flushes, continuing to capitalize upon the current and proven method of transporting HLW material to the melter.

As a method of stabilizing and deactivating the vitrification facility and tank farm, the WVDP will also utilize the Vitrification Expended Material Processing (VEMP) system to segregate, size reduce, chemically and radiologically decontaminate, and package various materials and equipment generated by the Project. The VEMP system entails size reduction utilizing cutting tools; remote handling using remote grappling devices; decontamination and decommissioning utilizing chemical and mechanical means; and sorting, segregating, and packaging using remote grappling devices. VEMP will serve as a processing system for HLW contaminated components and may potentially be utilized for processing similar wastes already in storage as well as other high activity waste generated during site completion activities associated with PBS OH-WV-02; Site Transition, Decommissioning and Project Completion.

Project Status in FY 2006:

Vitrification Operations and associated processing will have completed in FY2001. Initial stabilization and deactivation of the HLW vitrification facility, underground HLW storage tanks, and associated piping, equipment, manipulators, electrical equipment and controls systems will be completed in FY2002. PBS-OH-WV-01 - HLW Vitrification & Tank Heel High Activity Waste Processing will have been closed out at the end of FY2002. A substantial risk for the site will have been reduced, however all the HLW and its associated curie content will still remain in storage on site. Although the immediate risk associated with liquid HLW will have been substantially reduced, highly radioactive waste in a solidified form will remain onsite in aging facilities until a federal repository is identified and the waste can be shipped off site as delineated by the WVDP Act.

The activities associated with PBS-OH-WV-01 - HLW Vitrification & Tank Heel High Activity Waste Processing will have been completed by FY2006 and the focus of WVDP activities will be associated with PBS-OH-WV-02 - Site Transition, Decommissioning and Project Completion.

Post-2006 Project Scope:

The activities associated with PBS-OH-WV-01 - HLW Vitrification & Tank Heel High Activity Waste Processing will have been completed by FY2002 and the focus of WVDP activities will be associated with PBS-WV-02 - Site Transition, Decommissioning and Project Completion.

Project End State

Vitrification Operations and associated processing will have completed in FY2001. Initial stabilization and deactivation of the HLW vitrification facility, underground HLW storage tanks, and associated piping, equipment, manipulators, electrical equipment and controls systems will be completed in FY2002. PBS-OH-WV-01 - HLW Vitrification & Tank Heel High Activity Waste Processing will have been closed out at the end of

Project Description Narratives

FY2002. A substantial risk for the site will have been reduced, however all the HLW and its associated curie content will still remain in storage on site. Although the immediate risk associated with liquid HLW will have been substantially reduced, highly radioactive waste in a solidified form will remain onsite in aging facilities until a federal repository is identified and the waste can be shipped off site as delineated by the WVDP Act.

The activities associated with PBS-OH-WV-01 - HLW Vitrification & Tank Heel High Activity Waste Processing, will have been completed by FY2006 and the focus of WVDP activities will be associated with PBS-OH-WV-02 - Site Transition, Decommissioning and Project Completion.

Cost Baseline Comments:

The cost baseline through FY 2001 for Project Baseline (PBS) OH-WV-01 - HLW Vitrification & Tank Heel Activity Waste Processing, has not varied substantively from the originally developed Accelerating Clean up: Path to Closure Plan issued by WVDP in FY1997. As directed by the WVDP Act public law (PL 96-368), HLW vitrification processing must be completed before substantive decontamination & decommissioning can take place. The high risk still associated with the remaining HLW sludge drives the WVDP to complete the HLW processing in a timely and responsible manner due to limited remaining melter life. The removal process of the HLW tank heel high activity waste has been made substantially more challenging by the recent budget cut / reductions that have constrained WVDP's ability to procure or develop technologies during this phase of the project equal to the technologies utilized during the safe, highly productive and very successful processing of the liquid HLW in Phase I. The vitrification operations for processing HLW tank heel residuals is scheduled for completion in FY2001.

Vitrification Expended Material Processing (VEMP) system is jointly funded by WVDP and EM-50 Accelerated Site Technology Deployment (ASTD) Plan. The funding is committed by WVDP during its scheduled timeframe, however, funding from EM-50 is on a year by year basis. VEMP's development and implementation plan is on a phased approach and will evolve as needs arise with stabilization and deactivation activities regarding the HLW Vitrification Facility and HLW Tank Farm.

Safety & Health Hazards:

The major risk / hazard for this PBS is the associated with handling and management of the Project's HLW / HAW. Although vitrification operations substantially reduced the immediate risk associated with having liquid HLW in underground carbon steel storage tanks that have exceeded their design life, considerable risk remains in the form of highly radioactive waste now contained in a solid form which is being stored in an aging facility that is increasingly expensive to maintain. Vitrification processing did minimize waste volumes and did minimize the potential catastrophic consequences if a HLW tank leak would have occurred, however, until a federal repository (or interim storage) is identified and the Project can begin shipping off-site its HLW as delineated by the WVDP Act, the hazards associated with storage of 24M curies of solidified HLW remain on site.

Safety & Health Work Performance:

In 3Q98, the Project completed Phase I of the WVDP Act by safely vitrifying 85 percent of the HLW inventory of liquid high level waste (HLW) in the tank farm, under budget and ahead of schedule. A total of 210 canisters of solidified waste borsilicate glass were created, immobilizing 18 million curries during this effort. Upon completion of Phase I, the WVDP commenced HLW tank heel residual vitrification activities to process the remaining HLW sludge from the bottom of the tanks.

Vitrification Operations and associated processing is expected to be completed in FY2001. Initial stabilization and deactivation of the HLW

Project Description Narratives

vitrification facility, underground HLW storage tanks, and associated piping, equipment, manipulators, electrical equipment and controls systems is expected to be completed by FY2002.

This PBS has experienced moderate cost savings and favorable schedule performance as of 2Q99. Work is progressing as planned, and completion of the PBS will occur in FY2002 as long as funding support is adequately provided to maintain the schedule commitments.

In 3Q99, the WVDP voluntarily implemented the Integrated Safety Management System (ISMS) despite not being a Defense Nuclear Facility Safety Board site. WVDP was validated by a DOE team in 1Q99, the first Ohio Field Office project to be validated. The DOE validation team confirmed that WVDP has implemented the core values and guiding principles of DOE Policy P450.4, as well as implementation of the tenets of Enhanced Work Planning.

PBS Comments:

Vitrification of liquid HLW is a key element toward the completion of the WVDP Act, and a significant accomplishment for the DOE. Vitrification of HLW tank residuals will follow the primary Vitrification campaign for Liquid HLW. Continued funding support is essential to maintain continuity in the vitrification campaign in order to achieve uninterrupted maximum utilization of the melter operation design life. A resolution and agreement between the DOE and NYSERDA on a vitrification strategy for other HAW authorizing the processing of other known HAW would enable the project to maximize the use of the melter for this purpose. Liquid HLW processing began in July 1996 and the expected melter operational design life is a nominal five years. The lead time required to evaluate, design, construct, install and test delivery systems to transport the other HAW to the Vitrification Facility, as well as the evaluation of possible modifications to the Waste Acceptance Criteria, would indicate that those activities should be concurrent with the on-going HLW vitrification process.

Baseline Validation Narrative:

Validation of FY1998 through FY2000 budget data was conducted by a team of individuals from EM-30, FM-20 and the Ohio Field Office. This team compared the scopes of the work to the respective budgets defined in the Cost Account Planning Reports (CAPRs) and found the estimates to be reasonable. The Validation was performed for each of the four Project Baseline Summaries and rolled up to encompass the WVDP work scope and costs as delineated by the WVDP (Act Public Law 96-368), as well as the West Valley Spent Nuclear Fuel Program (PBS-OH-WV-03 - Spent Nuclear Fuel.)

WVDP will request a validation of the FY2001 and near-term out-year budgets during FY1999. At that time it is expected that the work scope and respective budgets in the out-years will be generated to support Project Completion activities to the extent possible based upon funding guidance and work scope activities currently being executed independent of the FEIS/ROD and required per the scope delineated by the WVDP Act (Public Law 96-368).

General PBS Information

Project Validated? Yes **Date Validated:** 10/29/1998

Has Headquarters reviewed and approved project? Yes

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Operations/Field Office: **Ohio** Print Date: **3/9/2000**

Site Summary Level: **West Valley Demonstration Project** HQ ID: **0249**

Project **OH-WV-01 / HLW Vitrification and Tank Heel High Activity Waste Processing**

General PBS Information

Date Project was Added: 12/1/1997

Baseline Submission Date: 7/8/1999

FEDPLAN Project? Yes

Drivers:	**CERCLA**	**RCRA**	**DNFSB**	**AEA**	**UMTRCA**	**State**	**DOE Orders**	**Other**
	N	Y	N	Y	N	Y	Y	Y

Project Identification Information

DOE Project Manager: William F. Hamel

DOE Project Manager Phone Number: 716-942-2044

DOE Project Manager Fax Number: 716-942-4703

DOE Project Manager e-mail address: whamel@wv.doe.gov

Is this a High Visibility Project (Y/N): Y

Planning Section

Baseline Costs (in thousands of dollars)

	1997-2006 Total	**2007-2070 Total**	**1997-2070 Total**	**1997**	**Actual 1997**	**1998**	**Actual 1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
PBS Baseline (current year dollars)	271,571	0	271,571	55,000	51,300	53,000	51,208	43,800	43,100	46,700	29,971	0	0	0	0
PBS Baseline (constant 1999 dollars)	265,713	0	265,713	55,000	51,300	53,000	51,208	43,800	41,967	44,277	27,669	0	0	0	0
PBS EM Baseline (current year dollars)	271,571	0	271,571	55,000	51,300	53,000	51,208	43,800	43,100	46,700	29,971	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	265,713	0	265,713	55,000	51,300	53,000	51,208	43,800	41,967	44,277	27,669	0	0	0	0

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Project **OH-WV-01 / HLW Vitrification and Tank Heel High Activity Waste Processing**

	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.00%	0.00%	0.00%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.70%	2.70%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project: 9/30/2002

Current Projected End Date of Project: 9/30/2002

Explanation of Project Completion Date Difference (if applicable):

PBS replanned as a result of 1999-2001 WVDP Strategic Plan and Validation recommendation regarding Functional Costs (December, 1998):

Recent replanning efforts have enabled the WVDP to direct significant resources to the site transitioning and post vitrification effort. The FY2000 Validation of the 1999-2001 WVDP Plan

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Project **OH-WV-01 / HLW Vitrification and Tank Heel High Activity Waste Processing**

Project Reconciliation

formally reviewed and approved this strategy. With DOE-OH approval, functional costs are no longer required to be reported in PBS-OH-WV-04 Project Management / Site Support, and as a result the PBS structure is more compatible to the Work Breakdown Structure utilized in the Cost Management System and Cost Account Planning Report Systems.

Project End expected in FY2002.

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	295,898	**Actual 1997 Cost:**	51,300	**Actual 1998 Cost:**	51,208
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	193,390	**Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):**			5,222
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	198,612				

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):		
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):		
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	198,612	
Additional Amount to Reconcile (+):	-40,899	($5743k) Uncosted / ($1422k) 1997 Actual Cost Escalation to 1999 dollars / ($33735k) Replan
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**157,713**	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Begin HLW Vit Systems / Melter Deactivation	1281		10/1/2001		10/1/2001						
Complete HLW Vit Systems/ Melter Deactivation	1282		9/30/2002		9/30/2002						

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Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Complete WV HLW Tank Heels & Residuals Vitrification Processing	1283		9/30/2001		9/30/2001					Y	
Xfer 500k curies Cesium & Strontium from Tank 8D-2 to Vit Facility	1284		9/30/1999		9/30/1999						
Xfer 400k curies Cesium & Strontium from HLW Tank 8D-1 to Tank 8D-2	1285		9/30/1999		9/30/1999						
Transfer 400,000 curies of Cesium-137 from HLW Tank 8D-1 to Tank 8D-2.	OHWV-99A (3105)		9/30/1999						Y		
Transfer 500,000 curies of Cesium-137 and Strontium 90 from Tank 8D-2 to Vit Fac	OHWV-01-99B (3106)		9/30/1999						Y		
Transfer 400,000 curies of Cesium-137 from HLW Tank 8D-1 to Tank 8D-2. (duplicates #3105)			9/30/1999						Y		
Transfer 500,000 curies of Cesium-137 and Strontium 90 from Tank 8D-2 to Vit Fac (duplicates #3106)			9/30/1999						Y		
Project End PBS-OH-WV-01; HLW Vitrification & Tank Heel High Activity Waste Processing	3702		9/30/2002								
Begin PBS-OH-WV-01 Format			10/1/1997								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Begin HLW Vit Systems / Melter Deactivation	1281										Begin HLW Vit Systems/ Melter Deactivation; Begin VF Deactivation Process; Systems utilized to retrieve, transfer, and process liquid HLW into borosilicate glass for dispositioning are flushed and deactivated in preparation for D&D, according to NRC

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Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Complete HLW Vit Systems/ Melter Deactivation	1282	Y									Complete HLW Vit Systems/ Melter Deactivation; Complete VF Deactivation Process; Systems utilized to retrieve, transfer, and process liquid HLW into borosilicate glass for dispositioning are flushed and deactivated in preparation for D&D, according t
Complete WV HLW Tank Heels & Residuals Vitrification Processing	1283		Y				3	5	1		Complete WV HLW Tank Heels & Residuals Vitrification Processing: Vitrification processing of residual waste from HLW Tank farm completed and waste transfers from HLW Tank farm are terminated. Activity is dependent upon NRC concurrence with HLW tank end
Xfer 500k curies Cesium & Strontium from Tank 8D-2 to Vit Facility	1284										FY1999 WVNS performance based commitment to DOE-WV.
Xfer 400k curies Cesium & Strontium from HLW Tank 8D-1 to Tank 8D-2	1285										FY1999 WVNS performance based commitment to DOE-WV.
Transfer 400,000 curies of Cesium-137 from HLW Tank 8D-1 to Tank 8D-2.	OHWV-99A (3105)										FY1999 WVNS performance based milestone. FY99 Ohio Field Office Performance Plan Assessment Key Success Factor D.1 Objective: Execute Project Baselines and Meet Critical Milestones- Performance Measure #21 (Indicated as a Critical Closure Path

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Project **OH-WV-01 / HLW Vitrification and Tank Heel High Activity Waste Processing**

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
											MS in
Transfer 500,000 curies of Cesium-137 and Strontium 90 from Tank 8D-2 to Vit Fac	OHWV-01-99B (3106)										FY1999 WVNS performance based milestone. FY99 Ohio Field Office Performance Plan Assessment Key Success Factor D.1 Objective: Execute Project Baselines and Meet Critical Milestones Performance Measure #22. (Indicated as a Critical Closure Path MS in
Transfer 400,000 curies of Cesium-137 from HLW Tank 8D-1 to Tank 8D-2. (duplicates #3105)										Y	Duplicates WV milestone # 3105 OHWV01-99A
Transfer 500,000 curies of Cesium-137 and Strontium 90 from Tank 8D-2 to Vit Fac (duplicates #3106)										Y	Duplicates milestone # WV 3106 OHWV01-99B
Project End PBS-OH-WV-01; HLW Vitrification & Tank Heel High Activity Waste Processing	3702				Y	Y					Project End PBS-OH-WV-01; HLW Vitrification & Tank Heel High Activity Waste Processing: PBS-OH-WV-01 is terminated after Vitrification Facility deactivation
Begin PBS-OH-WV-01 Format				Y							Begin PBS-OH-WV-01 Format: WVDP work performed between Oct 1, 1981 and Sept 30, 1997, was not performed in PBS format. PBS format initiated by Al Alm Draft Ten Year Plan Guidance 6/10/1996. Therefore, PBS start date is designated as Oct 1, 1997.

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Project **OH-WV-01 / HLW Vitrification and Tank Heel High Activity Waste Processing**

Performance Measure Metrics

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planne 20(
HLW														
Treatment	M3	962.00	0.00	962.00	0.00		0.00	780.00	100.00	50.00	32.00			
HLW														
Storage	M3							182.00	82.00	32.00				
Tech.														
Deployed	Ntd	1.00	0.00	1.00					1.00					

Category/Subcategory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planned 2010	Planned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Planned 2026 - 2030	Planned 2031 - 2035
HLW													
Treatment	M3												
HLW													
Storage	M3												
Tech.													
Deployed	Ntd												

Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total
HLW										
Treatment	M3									935.00
HLW										
Storage	M3									
Tech.										
Deployed	Ntd								1.00	1.00

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Project **OH-WV-01 / HLW Vitrification and Tank Heel High Activity Waste Processing**

Technology Needs

Site Need Code: OH-F001

Site Need Name: Use of Groundwater Re-Injection at the FEMP as an Enhancement to Aquifer Remediation

Focus Area Work Package ID: Pu-02-Stabilization **Focus Area Work Package:** Miscellanous Pu Residue Stabilization and Disposition

Focus Area: PLUTOFA **Agree with Technology Link:** N

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Site Need Code: OH-WV903

Site Need Name: Vitrification Expended Material Processing (WVDP-3-99)

Focus Area Work Package ID: WT-06-01 **Focus Area Work Package:** Enhanced Immobilization Productivity

Focus Area: TFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate
High Activity Waste Forms and Processes	0	

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Project **OH-WV-01 / HLW Vitrification and Tank Heel High Activity Waste Processing**

Technology Needs

Site Need Code: OH-WV-905

Site Need Name: Retrieval of Tank Heels

Focus Area Work Package ID: WT-05-01 **Focus Area Work Package:** Tank Closure

Focus Area: TFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Site Need Code: OH-WV-906

Site Need Name: Radioactivity Measurement of High-Level Waste Tank Residuals

Focus Area Work Package ID: WT-05-01 **Focus Area Work Package:** Tank Closure

Focus Area: TFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

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Project **OH-WV-01 / HLW Vitrification and Tank Heel High Activity Waste Processing**

Technology Needs

Site Need Code: OH-WV-907

Site Need Name: Leak Mitigation for High-Level Waste Tanks

Focus Area Work Package ID: WT-05-01 **Focus Area Work Package:** Tank Closure

Focus Area: TFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Technology Deployments

	Deployment Year		
Deployment Status	**Planned**	**Forecast**	**Actual Date**
Technology Name: Vitrification Expended Materials Processing OH-WV903			
Deployment Commitment	1999		